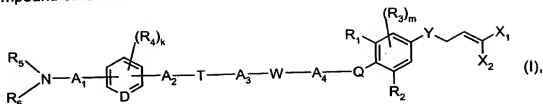


Patent claims

## 1. A compound of formula



wherein

A<sub>1</sub>, A<sub>2</sub> and A<sub>3</sub> are each independently of the others a bond or a C<sub>1</sub>-C<sub>6</sub>alkylene bridge which is unsubstituted or substituted by from one to six identical or different substituents selected from C<sub>3</sub>-C<sub>6</sub>cycloalkyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl and C<sub>1</sub>-C<sub>3</sub>haloalkyl;

A<sub>4</sub> is a C<sub>1</sub>-C<sub>6</sub>alkylene bridge which is unsubstituted or substituted by from one to six identical or different substituents selected from C<sub>3</sub>-C<sub>6</sub>cycloalkyl, C<sub>3</sub>-C<sub>6</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl and C<sub>1</sub>-C<sub>3</sub>haloalkyl;

D is CH or N;

W is O, NR<sub>7</sub>, S, SO, SO<sub>2</sub>, -C(=O)-O-, -O-C(=O)-, -C(=O)-NR<sub>8</sub>- or -NR<sub>8</sub>-C(=O)-;

T is a bond, O, NH, NR<sub>7</sub>, S, SO, SO<sub>2</sub>, -C(=O)-O-, -O-C(=O)-, -C(=O)-NR<sub>8</sub>- or -NR<sub>8</sub>-C(=O)-;

Q is O, NR<sub>7</sub>, S, SO or SO<sub>2</sub>;

Y is O, NR<sub>7</sub>, S, SO or SO<sub>2</sub>;

X<sub>1</sub> and X<sub>2</sub> are each independently of the other fluorine, chlorine or bromine;

R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> are each independently of the others H, halogen, CN, nitro, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>haloalkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>2</sub>-C<sub>6</sub>alkenyloxy, C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy, C<sub>2</sub>-C<sub>6</sub>alkynyloxy, C<sub>1</sub>-C<sub>6</sub>alkoxycarbonyl or C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy; the substituents R<sub>3</sub> being independent of one another when m is 2;

R<sub>4</sub> is H, halogen, CN, nitro, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>haloalkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>2</sub>-C<sub>6</sub>alkenyloxy, C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy, C<sub>2</sub>-C<sub>6</sub>alkynyloxy, C<sub>1</sub>-C<sub>6</sub>alkoxycarbonyl or C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy; the substituents R<sub>4</sub> being independent of one another when k is greater than 1;

R<sub>8</sub> is H, CN, OH, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>2</sub>-C<sub>8</sub>alkenyloxy, C<sub>2</sub>-C<sub>8</sub>haloalkenyloxy, C<sub>2</sub>-C<sub>8</sub>alkynyloxy, -C(=O)R<sub>9</sub>, -C(=S)R<sub>9</sub>, phenyl, benzyl; or phenyl, phenylcarbonyl or benzyl each of which is substituted in the aromatic ring by from one to five identical or different substituents selected from the group consisting of halogen, C<sub>1</sub>-C<sub>6</sub>alkyl, halo-C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>alkoxy, hydroxy, cyano and nitro;

R<sub>6</sub> is H, CN, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, -C(=O)R<sub>9</sub>, -C(=S)R<sub>9</sub>, phenyl, benzyl; or phenyl, phenylcarbonyl or benzyl each of which is substituted in the aromatic ring by from one to five identical or different substituents selected from the group consisting of halogen, C<sub>1</sub>-C<sub>6</sub>alkyl, halo-C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>alkoxy, hydroxy, cyano and nitro; or

R<sub>5</sub> and R<sub>6</sub> together form a four- to eight-membered, straight-chain or branched alkylene bridge wherein a CH<sub>2</sub> group may have been replaced by O, S or NR<sub>10</sub>, and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl and C<sub>1</sub>-C<sub>3</sub>haloalkyl; or

R<sub>8</sub> is -C(=O)R<sub>9</sub> or -C(=S)R<sub>9</sub>, and R<sub>5</sub> and R<sub>6</sub> together form a three- to eight-membered, straight-chain or branched alkylene bridge wherein a CH<sub>2</sub> group may have been replaced by O, S or NR<sub>10</sub>, and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl and C<sub>1</sub>-C<sub>3</sub>haloalkyl; or

R<sub>5</sub> and R<sub>6</sub> are each independently of the other -C(=O)R<sub>9</sub> or -C(=S)R<sub>9</sub>, and the two R<sub>6</sub> together form a two- to eight-membered, straight-chain or branched alkylene bridge wherein a CH<sub>2</sub> group may have been replaced by O, S or NR<sub>10</sub>; and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl-C<sub>1</sub>-C<sub>6</sub>alkyl and C<sub>1</sub>-C<sub>3</sub>haloalkyl;

R<sub>7</sub> is H, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>3</sub>haloalkyl, C<sub>1</sub>-C<sub>3</sub>haloalkylcarbonyl, C<sub>1</sub>-C<sub>6</sub>alkoxyalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl or C<sub>3</sub>-C<sub>8</sub>cycloalkyl;

R<sub>8</sub> is H, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>3</sub>haloalkyl, C<sub>1</sub>-C<sub>3</sub>haloalkylcarbonyl, C<sub>1</sub>-C<sub>6</sub>alkoxyalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl or C<sub>3</sub>-C<sub>8</sub>cycloalkyl;

R<sub>9</sub> is C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>2</sub>-C<sub>8</sub>alkenyl, C<sub>2</sub>-C<sub>8</sub>haloalkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>2</sub>-C<sub>8</sub>alkenyloxy, C<sub>2</sub>-C<sub>8</sub>haloalkenyloxy, C<sub>2</sub>-C<sub>6</sub>alkynyloxy, C<sub>3</sub>-C<sub>6</sub>cycloalkyl, phenyl, benzyl; or phenyl or benzyl each of which is unsubstituted or substituted by

from one to three identical or different substituents selected from halogen, CN, nitro, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>haloalkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkoxycarbonyl, C<sub>1</sub>-C<sub>3</sub>haloalkoxycarbonyl and C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy;

R<sub>10</sub> is H, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>3</sub>haloalkyl, C<sub>1</sub>-C<sub>3</sub>haloalkylcarbonyl, C<sub>1</sub>-C<sub>6</sub>alkoxyalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl or C<sub>3</sub>-C<sub>6</sub>cycloalkyl;

k, when D is nitrogen, is 1, 2 or 3; or, when D is CH, is 1, 2, 3 or 4; and

m is 1 or 2;

and, where applicable, a possible E/Z isomer, E/Z isomeric mixture and/or tautomer thereof, in each case in free form or in salt form.

2. A compound according to claim 1 of formula (I) in free form.

3. A compound according to either claim 1 or claim 2 of formula (I) wherein X<sub>1</sub> and X<sub>2</sub> are chlorine or bromine.

4. A pesticidal composition which comprises as active ingredient at least one compound according to claim 1 of formula (I), in free form or in agrochemically acceptable salt form, and at least one adjuvant.

5. A process for the preparation of a composition as described in claim 4 which comprises intimately mixing the active ingredient with the adjuvant(s).

6. A method of controlling pests which comprises applying a pesticidal composition as described in claim 4 to the pests or to the locus thereof.

7. Use of a compound according to any one of claims 1 to 3 of formula (I), in free form or, where applicable, in agrochemically acceptable salt form, in the preparation of a composition as described in claim 4.